

Crude Oil

General Characteristics

- Crude oil is a mixture of hydrocarbons that exists in a liquid phase in natural underground reservoirs. Oil and gas account for about 60 per cent of the total world's primary energy consumption.
- Almost all industries including agriculture are dependent on oil in one way or other. Oil & lubricants, transportation, petrochemicals, pesticides and insecticides, paints, perfumes, etc. are largely and directly affected by the oil prices.
- Aviation gasoline, motor gasoline, naphtha, kerosene, jet fuel, distillate fuel oil, residual fuel oil, liquefied petroleum gas, lubricants, paraffin wax, petroleum coke, asphalt and other products are obtained from the processing of crude and other hydrocarbon compounds.
- The prices of crude are highly volatile. High oil prices lead to inflation that in turn increases input costs; reduces non-oil demand and lower investment in net oil importing countries.

Categories of Crude oil

- West Texas Intermediate (WTI) crude oil is of very high quality. Its API gravity is 39.6 degrees (making it a "light" crude oil), and it contains only about 0.24 percent of sulphur (making a "sweet" crude oil). WTI is generally priced at about a \$2-4 per-barrel premium to OPEC Basket price and about \$1-2 per barrel premium to Brent, although on a daily basis the pricing relationships between these can vary greatly.
- Brent Crude Oil stands as a benchmark for Europe.
- India is very much reliant on oil from the Middle East (High Sulphur). The OPEC has identified China & India as their main buyers of oil in Asia for several years to come.

Crude Oil Units (average gravity)

- 1 US barrel = 42 US gallons.
- 1 US barrel = 158.98 litres.
- 1 tonne = 7.33 barrels .
- 1 short ton = 6.65 barrels .
- Note: barrels per tonne vary from origin to origin.

Global Scenario

- Oil accounts for 40 per cent of the world's total energy demand.
- The world consumes about 76 million bbl/day of oil.
- United States (20 million bbl/d), followed by China (5.6 million bbl/d) and Japan (5.4 million bbl/d) are the top oil consuming countries.
- Balance recoverable reserve was estimated at about 142.7 billion tones (in 2002), of which OPEC was 112 billion tones.

OPEC fact sheet

OPEC stands for 'Organization of Petroleum Exporting Countries'. It is an organization of eleven developing countries that are heavily dependent on oil revenues as their main source of income. The current Members are Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates and Venezuela.

- OPEC controls almost 40 percent of the world's crude oil.
- It accounts for about 75 per cent of the world's proven oil reserves.
- Its exports represent 55 per cent of the oil traded internationally.

Indian Scenario

- India ranks among the top 10 largest oil-consuming countries.
- Oil accounts for about 30 per cent of India's total energy consumption. The country's total oil consumption is about 2.2 million barrels per day. India imports about 70 per cent of its total oil consumption and it makes no exports.
- India faces a large supply deficit, as domestic oil production is unlikely to keep pace with demand. India's rough production was only 0.8 million barrels per day.
- The oil reserves of the country (about 5.4 billion barrels) are located primarily in Mumbai High, Upper Assam, Cambay, Krishna-Godavari and Cauvery basins.
- Balance recoverable reserve was about 733 million tones (in 2003) of which offshore was 394 million tones and on shore was 339 million tones.
- India had a total of 2.1 million barrels per day in refining capacity.
- Government has permitted foreign participation in oil exploration, an activity restricted earlier to state owned entities.
- Indian government in 2002 officially ended the Administered Pricing Mechanism (APM). Now crude price is having a high correlation with the international market price. As on date, even the prices of crude bi-products are allowed to vary +/- 10% keeping in line with international crude price, subject to certain government laid down norms/ formulae.
- Disinvestment/restructuring of public sector units and complete deregulation of Indian retail petroleum products sector is under way.

Market Influencing Factors

- OPEC output and supply .
- Terrorism, Weather/storms, War and any other unforeseen geopolitical factors that causes supply disruptions.
- Global demand particularly from emerging nations.
- Dollar fluctuations.
- DOE / API imports and stocks.
- Refinery fires & funds buying.

Exchanges dealing in crude futures

- The New York Mercantile Exchange (NYMEX) .
- The International Petroleum Exchange of London (IPE).

- The Tokyo Commodity Exchange (TOCOM).